

An Examiner's Amendment to the record appears below. Should the changes and/or additions be unacceptable to Applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the Issue Fee.

IN THE SPECIFICATION:

Page 15, line 21, delete "according to claim 1, 2, 3, or 4," and on Page 39, line 14, change both occurrences of "=" to --  $\approx$  --.

IN THE CLAIMS:

Claim 5, in lines 4 and 5, change " $\square$ " to " $\approx$ ".

Claim 7, line 2, delete "instead of the transient" and  
in line 3, delete "current contact,".

Claim 12, line 9, change "a transient current contact" to -- when the transient  
current contact -- and  
in line 10, change "a capacitor" to -- the capacitor --.

Claim 14, line 2, change "made" to -- made to --,  
in line 9, change "brush," to -- brushes,--,  
in line 10, change "the capacitor" to -- a capacitor --,  
in line 12, after "capacity" insert -- of the capacitor -- and  
in line 17, after "voltage" insert -- to the minimum arc discharge  
voltage --.

Claim 17, in line 22, change "energizing contacts" to -- the contact electrodes --.

Authorization for this Examiner's Amendment was given in a telephone interview with Ronald R. Snider on 8/27/2008.

The following changes to the Drawings have been Approved by the Examiner and agreed upon by Applicant: Label Figures 11, 36, 39-41 and 44 as "Prior Art" and in Figure 42, delete "(From OTTOWA ELECTRIC COMPANY HP; <http://www.otowadenki.co.jp/eng/index.html>)". In order to avoid Abandonment of the application, Applicant must make these above agreed upon drawing changes.

The following is an Examiner's Statement of Reasons for Allowance: It is the opinion of the Examiner that the claimed combinations found within each of the Independent Claims 1, 14, 15, 16 and 17 are considered to be novel and unobvious in view of the Prior Art of Record. The combinations include the calculation of the capacitor capacity by transient current analysis using a contact resistance which is measured between its energizing contacts, or for Claim 16, between the socket and the plug, or for Claim 17, between the rotating electrodes and the contact electrodes, during their breaking operation and for Claim 14, the contact between the brush and the commutator is replaced with a measured transient contact resistance. The combinations each further require that the calculation includes wherein the calculated decreasing time of a contact current to the minimum arc discharge current is shorter than calculated increasing time of a contact voltage to the minimum arc discharge

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voltage during a breaking operation. The Prior Art is replete with teachings of various parameters, such as, contact resistance, contact material, humidity and capacitor capacity all affecting arcing conditions upon breaking operation, but do not appear to make obvious the instant claimed combinations.

Any comments considered necessary by Applicant must be submitted no later than the payment of the Issue Fee and, to avoid processing delays, should preferably accompany the Issue Fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RONALD W. LEJA whose telephone number is (571)272-2053. The examiner can normally be reached on Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Sherry can be reached on (571)272-2800. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ronald W Leja/

Ronald W Leja  
Primary Examiner  
Art Unit 2836

/rwl/  
August 28, 2008